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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/823,947

03/30/2001

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EXAMINER

KIM, PAUL L

ART UNIT

PAPER NUMBER

2857

DATE MAILED: 01/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/823,947

Applicant(s)

BLEAKLEY, THOMAS E.

Examiner

Paul Kim

Art Unit

2857

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 23-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 12, 23, 24, 27 and 28 is/are rejected.
- 7) ☒ Claim(s) 7-10, 25 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a) because they fail to show description labels for parts 114-116, 148, 152, 155, and 158 in figure 1 and parts 374, 381, and 385 in figure 3 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claims 1, 4, and 23 are objected to because of the following informalities: With regard to claim 1, in the last line, the phrase "value of both the first and second *pulse train*" should be -- value of both the first and second control signal --. With regard to claim 4, the third line beginning with "a third pulse train" needs to be deleted. With regard to the last paragraph of claim 23, the phrase "output a signal to the *scan chains* to load and unload the scan chains" should be changed to -- output a signal to the switch to load and unload the scan chains --. Appropriate correction is required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-6, 11, 12, 23, 24, 27, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Nadeau-Dostie et al.

With regard to claims 1 and 12, Nadeau-Dostie et al teaches a system that comprises: a first pulse train input to a switch having a repeating high and low value at a first frequency, and a transition from the low value to the high value having a first edge sharpness (fig. 4, ClockHS_raw); a second pulse train input to the switch in

synchronization with the first pulse train having a repeating high and low value at a second frequency lower than the first frequency (fig. 4, BistCLK); the switch selecting an output from one of the first pulse train and the second pulse train to create an output pulse train to transition fault test an integrated circuit, depending upon a selection signal having a determined pulse train input to the switch (fig. 1, part 52); the selection signal in synchronization with the first pulse train; wherein the switch switches from the second pulse train to the first pulse train and maintains the first edge sharpness of the first pulse train, and from the first pulse train to the second pulse train, during a low value of both the first and the second control signal (fig. 4, SE, SE2, Clock HS & CaptureClock and col. 11, lines 23+).

With regard to claims 2-4, Nadeau-Dostie et al teaches a signal input to the switch having the low value; the switch selecting an output from one of the first pulse train, second pulse train, and third signal; and the switch switching from first pulse train to the second pulse train or the second pulse train to the first pulse train (col. 8, lines 22+).

With regard to claims 5, 6, and 11, Nadeau-Dostie et al teaches an edge placement improvement circuit to improve the edge placement accuracy of an input pulse train; wherein the output of the edge placement accuracy improvement circuit has substantially the edge placement accuracy of the first pulse train, and the edge placement accuracy improvement circuit is coupled between the input pulse train and the switch (col. 9, lines 62+).

With regard to claim 23, Nadeau-Dostie et al teaches a system that includes: a first pulse train at a frequency adequate to load and unload at least one scan chain of an integrated circuit input to a switch (fig. 4, ClockHS_raw); a second pulse train in synchronization with the first pulse train having a frequency and pulse edge sharpness adequate to test the propagation time of an integrated circuit core at functional at-frequency rates input to the switch (fig. 4, BistCLK); the switch that dynamically outputs alternatively a portion of the first pulse train or the second pulse train as an output, based on an input from an at least one selection signal (fig. 1, part 52); and the selection signal defined for the switch to output a signal to the switch to load and unload the scan chains and to transition fault test the integrated circuit core (col. 7, lines 53-59 & col. 8, lines 22+).

With regard to claim 24, Nadeau-Dostie et al teaches a signal having a substantially low value input to the switch wherein the switch outputs alternatively the first pulse train portion or the second pulse train portion or the signal as an output, based on an input from the selection signal; the switch switches the output from the second pulse train to the first pulse train by switching from the second pulse train to the signal to the first pulse train; and the switch switches the output from the first pulse to the second pulse train by switching from the first pulse train to the signal to the second pulse train (fig. 1, parts 50, 52, & 60 and col. 8, lines 22+).

With regard to claim 27, Nadeau-Dostie et al teaches a calibration circuit to align the selection signal with at least one of the first and second signal (col. 9, lines 57-61).

With regard to claim 28, Nadeau-Dostie et al teaches the selection signal is in synchronization with at least one of the first signal and the second signal (col. 9, lines 62+).

Allowable Subject Matter

5. Claim 7-10, 25, and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takeoka et al and Kurd et al both teach a method of testing integrated circuits by inputting scan chain waveforms.

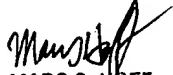
7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is 571-272-2217. The examiner can normally be reached on Monday-Thursdays 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc Hoff can be reached on 571-272-2216. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Art Unit: 2857

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

PK
January 18, 2006


MARC S. HOFF
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800